Notice of Allowability	Application No.	Applicant(s)	
	09/380,412	LJUNGSTROEM ET AL.	
	Examiner	Art Unit	
	Naghmeh Mehrpour	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *remark filed on 3/13/06*.

2. ☒ The allowed claim(s) is/are *12-27*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

MELODY MEHRPOUR
PATENT EXAMINER

DETAILED ACTION

Allowable Subject Matter

1. **Claims 12-27**, are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding **claim 12**, the present application teaches a method of operating a cordless communication system, wherein the cordless communication system comprises a mobile terminal of a public cellular communication system, and a base station which is connectable to the public a fixed network and compatible at an air interface with the cellular communication system, wherein the base station has at least one authentication function. The method comprises reading and writing from and to at least a first subscriber identity module through a read and write unit of the base station. Sections of data of the first subscriber identity module used in the base station are identical to sections of data stored on a second subscriber identity module of a mobile terminal authorized to access the public cellular communication system. The method of operation of the cordless communication system further comprises processing data read from the first subscriber identity module through software implemented in the base station, using a random number generated at the base station, so as to generate a first comprises processing data read from the second subscriber identity module, using the random number generated at the base station, so as to generate a second authentication result. The mobile terminal authenticated with regard to the base station through the first authentication result and the second authentication result. In one example, software at the base station generate a random number, and the base station

determines a first authentication result based on the generated random number and a key stored in the first subscriber identity module using a predetermined algorithm. Similarly, the mobile terminal determines a second authentication result based on the random number generated at the base station and a key stored in the second subscriber identity modules using the predetermined algorithm. When the keys stored in the first subscriber identity modules are the same, the first and the second authentication results will be equivalent when compared at the base station. Thereby, the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, wherein the authentication is performed without accessing a home location register in the public cellular communication system. Finally, the method of operation comprises operating the mobile through the public fixed network if the authentication has been successful.

Regarding **claim 20**, the present application teaches a method of operating a cordless communication system, wherein the cordless communication system comprises a mobile terminal of a public cellular communication system, and a base station which is connectable to the public a fixed network and compatible at an air interface with the cellular communication system, wherein the base station has at least one authentication function. The base station comprises reading and writing from and to at least a first subscriber identity module through a read and write unit of the base station. Sections of data of the first subscriber identity module used in the base station are identical to sections of data stored on a second subscriber identity module of a

mobile terminal authorized to access the public cellular communication system. The cordless communication system of claim 20 further comprises software implemented in the base station, for processing data read from the first subscriber identity module and for authenticating the mobile relative to the base station through the processed data based on the first subscriber identity module. The base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system. Thereby, the mobile terminal is authenticated by the base station of the cordless system and not by the cellular network while maintaining the security features typically provided by the cellular network. The base station uses the processed data based on the first subscriber identity module and an authentication result generated by processing data read from the second subscriber identity module for authentication of the mobile terminal.

Regarding **claim 25**, the present application teaches a method of operating a cordless communication system, wherein the system comprises a mobile terminal of a public cellular communication system, and a base station which connectable to the public fixed network. The base station compatible at an air interface with the public cellular communication system and includes at least one authentication function. The method comprises reading and writing from and to at least a first subscriber identity module through a read and write unit of the base station. A secret key is stored on both the first identification module and a second identification module of a mobile terminal authorized to access the public cellular communication system. The method of

operating further comprises generating a random number and generating a first authentication result based on the random number and the secret key using a ciphering algorithm at the base station, and generating a second authentication result based on the random number and the secret key using a ciphering algorithm at the access-authorized mobile terminal. The mobile terminal is authenticated with regard to the base station through the first and second authentication results such that the mobile terminal to the base station through the first and second authentication results such that the mobile terminal authenticates directly with the base station. Thereby, the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, and authentication center of the public cellular communication system, wherein the authentication is performed without accessing a home location register in the public cellular communication system. The mobile terminal is operated through the public fixed network if the authentication has been successful.

Regarding **claim 26**, the present application teaches a method of operating a cordless communication system, wherein the system comprises a mobile terminal of a public cellular communication system, and a base station which connectable to the public fixed network. The base station compatible at an air interface with the public cellular communication system and includes at least one authentication function. The method comprises transmitting a specific identification periodically from the base station to indicate presence and readiness for operation during a standby mode. The method comprises reading and writing from and to respectively, at least first identification

module through a read and write unit of the base station. Sections of data of the first identification module used in the base station are identical to sections of data stored on a second identification module of a mobile terminal. The mobile terminal is authorized to access the public cellular communication system. The method of operation further comprises processing data read from the first identification module through software implemented in the base station so as to generate a first authentication result. The method also comprises processing data read from the second identification module so as to generate a second authentication result. The mobile terminal is authenticated with regard to the base station through the first and second authentication results. Thereby, the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, wherein the authentication is performed without accessing a home location register in the public cellular communication system. The mobile terminal is operated through the public fixed network if the authentication has been successful.

Regarding **claim 27**, the present application teaches a method of operating a cordless communication system, wherein the system comprises a mobile terminal of a public cellular communication system and a base station which connectable to the public a fixed network. The base station compatible at an air interface with the public cellular communication system and includes at least one authentication function. The method comprises reading and writing from and to respectively, at least first identity module (SIM) through a read and write unit of the base station. Sections of data of the

first identification module used in the base station are identical to sections of data stored on a second SIM card used of a mobile terminal. The mobile terminal is authorized to access the public cellular communication system. The method of operation further comprises processing data read from the first SIM card through software implemented in the base station using a random number generated a the base station so as to generate a first authentication result. The method also comprises processing data read from the second SIM, using the random generated at the base station so as to generate a second authentication result. The mobile terminal is authenticated with regard to the base station through the first and second authentication results. Thereby, the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, wherein the authentication is performed without accessing a home location register in the public cellular communication system. The mobile terminal is operated through the public fixed network if the authentication has been successful.

The closest prior art such as Schellinger et al. (US Patent 6,134,438) teaches a method wherein establishes a communication link in a communication system when a cordless base station has been authenticated to communicate with authorization equipment, and the authorization equipment has been authenticated to communicate with the cordless base station. Preferrably, one or more random numbers are transmitted between the cordless base station and the authorization and call routing equipment to establish the communication link, Schellinger authentication is performed

in conventional method by accessing a home location register in the public cellular communication system. Schellinger fails to teach a method of operating a cordless communication system, wherein the authentication is performed without accessing a home location register in the public cellular communication fixed network if the authentication has been successful as specifically mentioned on claims 13, 20, 25-27.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

2. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 571-272-7913. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro be reached (571) 272-7876.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

August 25, 2006

MELODY MEHRPOUR
PATENT EXAMINER